A Report in Support of

A PROPOSAL FOR AN INTEROPERABLE LAND INFORMATION SYSTEM FOR THE STATE OF NEBRASKA

Institutional Models: Land Records Modernization State Profiles

Prepared for the

NEBRASKA GIS STEERING COMMITTEE

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STRATEGIC PLAN

A. Introduction

1. Background

This document outlines a strategic plan intended to lead to the development of an interoperable land information system for the State of Nebraska. This plan has been created as part of a larger process of a land records modernization study. It is the culmination of a process of discovery, consensus building, and visioning. This study has had four discreet phases:

- A review of leading institutional models for land records modernization. This effort has provided valuable information to this process by identifying both "best practices" and "lessons learned" from a representative sample of states who have undertaken similar programs;
- An assessment of the current situation including the status and need for land records modernization. This assessment included both a comprehensive survey of local governments and interviews with key stakeholders at the state level;
- The development of a conceptual design and vision for a modernization program; and
- The creation of a plan for the next steps toward the development of a land information program for Nebraska

2. Purpose

This plan is intended to provide guidance and identify the initial steps toward effecting the vision for this system as detailed in the document entitled *A Proposal For An Interoperable Land Information System For The State Of Nebraska – Conceptual Design*. To meet this objective, this plan has two essential components.

- First, this report documents the key strategies that are intended to drive the development of this program.
- Second, this plan details a set of specific tactics and actions to move the program forward.

It is recognized that all the operational details of this program have not been fully determined. Moreover, in order to implement this program will require legislative action. Both of these facts indicate that the final form of this program will likely change. Obviously,

this means that one or more elements of this plan may also need to evolve with the further development of the program. As a result, the strategic dimension of this plan takes on greater importance. In particular, these strategies will serve as principles that will guide program implementation, regardless of the specific tactics that will be pursued.

B. Problem Statement

The status of land information in the State of Nebraska, in the aggregate, is unsatisfactory. While a few municipalities, counties, and regional agencies[1] have exemplary, modern land information systems, the bulk of local government in the state relies on archaic, manual systems to manage land records, parcel, and related information. This lack of automation is inefficient, limits productivity, and impedes local government's ability to provide mandated services[2].

While obviously this description portrays a somewhat bleak circumstance, there is considerable opportunity for modernization of land records in the State. As was noted in the Conceptual Design, a broadly based computing and data communication network exists. In addition, roughly 85% of Nebraska's counties have automated at least part of their assessment processes. The assessment databases that have been developed may serve as a key non-spatial data framework for more modern land information systems. Increasing spatial and non-spatial database interoperability will permit the development of systems that leverage existing systems investments while building more comprehensive statewide systems. Perhaps the most significant opportunity is interest and desire of many in government, local, regional, and state, to pursue modern land information systems.

C. Strategic Framework

1. Overview

This plan is intended to be both strategic and tactical. This means that this Plan has been developed around consensus of an "end in mind or vision." To achieve that vision requires an approach. Those are the strategies. Getting to the end in mind requires a set of action steps that are consistent with the game plan. Those action steps are the tactics. The strategies help establish a game plan that lead to vision. The game plan is supported by a set of tactics or steps, again, leading to the vision. It is necessary, therefore, to articulate the broad strategic themes that will guide the program.

The purposes of casting the plan in strategic terms are many. Of primary importance to the success of the plan will be the establishment of a rationale for each initiative and its associated action steps. As such, the strategic framework operates as a set of principles that can guide the development of the system. For example, an initiative will only be undertaken if it will advance the strategic objectives of the system. In this way, the strategic framework focuses initiatives and actions on those efforts that will advance the overall system toward the vision defined in the conceptual design.

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1 In particular, Douglas, Lancaster, Hall, and Scottsbluff Counties have modern, automated systems that support a range of business functions and public access.

2 For a more detailed problem statement discussion and recitation of the current factual context please see, *A Proposal For An Interoperable Land Information System For The State Of Nebraska – Conceptual Design and Action Plan*.

2. Strategic Themes

A strategic theme is a part of the vision of the system. Specifically, a strategic theme is an approach, which, if pursued, will make the initiative successful. There is a vision for a land information system for the State of Nebraska. The following strategic themes address both the factual circumstances and the drivers for modernization identified in the *Conceptual Design*.

a. Focused on Missions and Mandates

The overriding theme of this strategic framework is that the vision for land records modernization will be that it supports and is driven by the missions and mandates of the government in Nebraska. ***In the end, the systems that are developed must strengthen and enhance the business and governance of participating agencies and their clients.*** For the purposes of this report, a mandate is an explicit business function defined by statute, ordinance, or administrative code. A mission is a related business function or activity that may not be explicitly legally prescribed, but is undertaken as a strategic or political matter or initiative. The many facets of Homeland Security serve as a broad example of what a mission is. While not mandated, key homeland security initiatives such as critical infrastructure inventories are pursued.

b. Information System Perspective

The vision for modern land information systems focuses on the creation of information systems, not mapping systems. ***While maps and spatial data are essential components, the goal is to create information systems that are interoperable to support a multitude of business functions and activities.*** This also means that systems that will be technology (hardware and software) independent. Technical specifications and requirements, therefore, will focus on data, data models, and interoperability.

c. Multi-Purpose, Multi-Participant

Ultimately, the systems that are built from the modernization process must be-focused to meet the needs of the sponsoring or custodial agency. At the same time these systems must be multi-purposed in order to capture and maximize the available benefit streams. As such, where it is prudent, systems must be designed and constructed to meet the varied business requirements of affiliated agencies and other stakeholders, i.e., to be multi-participant. The object of this strategic theme is to ensure that systems are designed and constructed so benefits are not confined to a single agency or jurisdiction. ***The practical implication, therefore, is that program funds will be earmarked for multi-purpose and multi-participant systems***.

d. Statewide Scope, Decentralized Operations

The vision for this program contemplates a system that will ultimately be statewide in scope. At the same time, it is recognized that this statewide system will be decentralized in both its development and operation. This point is significant because it shapes the structure, governance, and operations of the program. This will be accomplished through the creation of network of federation of systems tied by common standards and data models, and built on the State's data communications network. This federation will operate as a set of independent systems operating at all levels of government. This vision embraces private sector participation, particularly utility companies, where those relationships will advance the objectives of the program.

e. Efficiency and Effectiveness

A principal driver for this effort is the broad recognition that both efficiency and effectiveness of public agencies may be improved with automation and coordination. The effect of this strategy is to build information systems, not maps, to engender interoperability to serve defined business functions. This also means that in the development of systems, the focus must be to balance functionality and cost to maximize the value of the output of the system.

D. Strategic Plan

1. Overview

The creation of a Land Information Program for the State of Nebraska represents a long-term investment which, by necessity, will be take time, effort and resources. At this point the details of the proposed program have not been fully developed. As a result, this plan deals with some those necessary details. Notwithstanding, this plan lays out a number of tactical actions that will allow the State to advance this program.

The plan is organized chronologically. It identifies both shorter and longer-term tactics and actions. The shorter-term tactics are characterized as a set of specific actionable next steps. The longer-term tactics, for the most part, are somewhat less specific, higher level objectives that are dependent on intermediate research, planning, and design.

Each of the tactical actions includes:

- A problem statement;
- A brief activity description;
- Its relationship to overall strategies;
- Estimated financial or staff resources needed to complete the activity;
- Proposed measures of success; and
- A timetable for beginning and completing the activity.

The following summarizes tactics and actions that will be needed to advance a land information program for Nebraska

2. Program Initiation

The first step in pursuing a land information program will be to enact enabling legislation. The outcome of this legislative initiative will dictate the content and contours of the program. The efforts leading to enactment of this enabling legislation will be, therefore, of tremendous importance. While the land information community cannot dictate the legislative details of a program, it can be tremendously influential in the process. To be successful will require consensus, decisiveness, and effort in persuasion.

a. Propose Governance Model

Problem Statement

One of the key features of the conceptual design that has not been agreed to is a proposed governance structure. While legislation may be drafted and enacted without this decision, it is in the interest of GIS Steering Committee and the stakeholders participating in this process to craft a structure that is amenable to them rather than leaving this decision to the Legislature and the Governor. Filling out this crucial aspect of the proposed program will have the added value of establishing the land information community's credibility and capability to move the program forward.

Activity Description

This will be a decision making and consensus building process. This may be conducted as a facilitated session or sessions[3]. Key functions that a governance model must support are identified and described in the Conceptual Design report[4]. Results of this decision making effort must be documented and incorporated into an updated Conceptual Design.

Strategies Effected

- Focused on Missions and Mandates
- Multi-Purpose, Multi-Participant
- Statewide Scope, Decentralized Operations
- Efficiency and Effectiveness

Resources Needed

- This may be done as a largely in-house exercise and, thus, no new expenditure of funds would be required.
- If consulting assistance would be required, fees would range to $5,000

Success Metrics

- The establishment of viable, consensus driven models that meet each of the required governance functions.
- Completion prior to the initiation of a legislative action
- Ultimately, successful implementation of a land information program for the State of Nebraska

Timetable

Begin immediately, complete by the end of November 2003.

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3 The Governor's Policy Research Office has informally offered to take a lead in this effort.

4 Key functions include: Sponsorship; Policy and Strategy Development; Coordination; Standards Development; Establishment of Priorities; Dispute Resolution; and Communication and Marketing.

b. Propose Operational Models

Problem Statement

As with governance models, decisions regarding specific operational aspects of the proposed program have not been made. At this point in the formulation of the program (i.e., prior to the enactment of legislation) the precise structure of the operational model need not be decided. However, establishment of the broad programmatic outlines will give the Legislature and the Governor both policy and political guidance as to the ultimate structure of the program. For now, proposing high level administrative structures[5] and preferred policy mechanisms[6] should suffice to meet the needs of elected officials. Again, filling out these crucial aspects of the proposed program will help establish stakeholder credibility and capability to move the program forward.

Activity Description

This also will be a decision making and consensus building process. The principal deliverable for this effort may be as simple as a legislative briefing paper defining operational targets. Decision points should include (but are not limited) to:

- Funding sources and proposed levy/rate structures
- Proposed program revenue distribution mechanisms
- State level administrative structure
- Local or regional administrative structures
- Budget impact statement

Results of this decision making effort must be documented and incorporated into an updated Conceptual Design.

Strategies Effected

- Focused on Missions and Mandates
- Information Systems Perspective
- Multi-Purpose, Multi-Participant
- Statewide Scope, Decentralized Operations
- Efficiency and Effectiveness

Resources Needed

- This may be done as a largely in-house exercise and, thus, no new expenditure of funds would be required.
- If consulting assistance would be required, fees would range to $5,000

5 These include program administration and location at the state level, staffing estimates, etc.

6 Examples of policy mechanisms include specific funding sources and distribution methods such as locally retained fees, grant programs, etc. These may also include technical assistance schemas and options for regionalization.

Success Metrics

- The establishment of viable, consensus driven models that address programmatic needs.
- Completion prior to the initiation of a legislative action
- Ultimately, successful implementation of a land information program for the State of Nebraska

Timetable

Begin immediately, complete by the end of calendar year 2003.

c. Formulate and Implement a Political Strategy

Problem Statement

The creation of a Land Information Program for Nebraska will require legislative initiative. This legislation will not be enacted without a concerted effort by the land information community to advance it. Law makers are confronted with many competing initiatives in times of constrained financial resources. Even though this effort will likely not involve general purpose revenue, i.e., that will be based on "user fee" program revenue, it will be challenging to convince decision makers to move forward. To be successful, stakeholders, public and private, must support the effort or, at least, not oppose it.

Activity Description

This effort will be multi-faceted and will involve strategy development, marketing, education, persuasion, coalition building, and lobbying. It will be important to arrange as much of this prior to introduction of legislation as possible. The following highlights some key efforts that should be undertaken.

- **Strategy Formulation.** Once the proposed governance and operational models have been put into place, the next step will be to identify key legislative strategies. This includes soliciting the support of the Governor and potential legislative sponsors. As part of this process, the proposed legislation should be vetted with these elected officials.
- **Build a Coalition.** For the effort to be successful, a coalition of stakeholders must be established and marshaled in support of the legislation. This coalition should include both public and private stakeholders. It will be incumbent upon the GIS Steering Committee and its members to work to build the coalition through their representative organizations and interest group affiliations. This will involve communication, education and vetting the proposal through these organizations and associations.

  Coalition members should include public interest groups, especially the Nebraska Association of County Officials (NACO) and its affiliates[7], the League of Nebraska Municipalities and its affiliates, the Nebraska Realtors

[7] These NACO affiliates include assessors; attorneys; clerks, election commissioners, registers of deeds; clerks of the district court; emergency managers; health officials; highway superintendents, surveyors, engineers; planning, zoning and development officials; sheriffs; transportation officials; treasurers; veterans service officers and weed control superintendents

Association, the Nebraska Land Title Association, Nebraska Association of Resource Districts, the Nebraska State Bar Association, Nebraska GIS/LIS Association, and others. The coalition should also explicitly include affected state agencies. While some of these organizations may not want to go on record in support of the program legislation, it will be important that they do not oppose it.

- **Advocacy.** The Coalition and the individual members must advocate and lobby for passage of appropriate legislation. This may include grass roots efforts as well as using professional association lobbyists to advocate for the program. The Coalition will need to track and monitor the legislative process to: Ensure that a bill advances; Provide focused support at key points during the process, e.g., when the bill comes up in committee and at final vote; and Ensure that as legislation is formulated and amended that the integrity of policy will meet the needs of the land information community;

Strategies Effected

- Focused on Missions and Mandates
- Information Systems Perspective
- Multi-Purpose, Multi-Participant
- Statewide Scope, Decentralized Operations
- Efficiency and Effectiveness

Resources Needed

Ideally, this will be a grass roots effort that will not necessarily involve outside assistance. Hopefully various professional associations will use their membership resources to advance this legislation.[8].

Success Metrics

The singular measure of success will be the passage of legislation that creates a program that will meet the needs of land information community in Nebraska.

Timetable

This process should begin immediately and conclude with the passage of legislation, hopefully in 2004 legislative session.

3. Program Implementation

Once enabling legislation has been enacted, the operational details of the program must be implemented. Given the nature of legislative process, there is uncertainty as to the final nature and scope of the program. Notwithstanding, there are various aspects of the program that will undoubtedly need to be addressed. Implementation will involve all aspects of system development, including business processes, data, technology, organizational dimensions, and, ultimately, applications.

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[8] One example of this kind of effort has occurred in Wisconsin where the Wisconsin Land Information Association has kept a lobbying firm on retainer to monitor and track legislation that affects the association and the Wisconsin Land Information Association.

As an overarching concept, whatever enabling legislation is finally enacted, it will likely not provide all of the administrative and operational details to move the program forward. For example, legislation will likely define departmental assignment or attachment for administrative purposes. Typically it is the responsibility of the executive branch to make the decisions regarding where program administration will fit within the State organizational chart. Similarly, the legislation may identify regionalization of local program implementation as a broad policy instrument. It will be incumbent upon program managers to operationalize regionalization as a policy mechanism. This may take the form of grants-in-aid incentives, etc. Often, it is necessary to develop administrative code provisions to implement program elements. This is particularly important in the cases where funds are disbursed under some competitive format such as grants-in-aid.

Based on the assumption that a Land Information Program will be established, the following summarizes some specific tactical initiatives that should be undertaken irrespective of the precise nature of the program. Where there is uncertainty that will be noted.

a. Create State Level Administrative Structure

Problem Statement

Regardless of the specific nature of the program legislation, it is clear that some new or modified State level organizational structure will have to be implemented. There are multiple dimensions to establishing the administrative function, including formalizing the governance structure, establishing terms of engagement between the agency which will house the program and staff, establishing, budgets, etc.

Activity Description

- **Formalize the Governance Structure.** Hopefully, this program will be governed by a separate policy body that represents the interests of the many stakeholders in the program. Presumably the legislation with create and name the representatives to this governing body. To operationalize this group will require development of a charter or bylaws that create procedures for election of officers, member and officer authority, quorum, tie-breakers, etc. This document may also define the scope and mission of the governing body, including its interaction with other entities or agencies.
- **Establish Organizational Structure.** Ideally, the governing body will work with the executive branch to establish the administrative and staffing structure for program administration. This will be a delicate and important process that may affect program outcomes. It is particularly important for the governing body to establish the terms of engagement between pure program administration, an executive function, and implementation of policies of the governing body. Experience in other states indicates that the negotiations and execution of creating the administrative function strongly influences program directions. It should be emphasized that this need not be adversarial, but it will be important that the governing body get established quickly so that it may work with the administration in the development of the program.
- **Establish Administrative Program Features.** This will be an ongoing, long term process as various program components are brought online. Initially, this will involve budget considerations, staff qualifications, position

descriptions and recruitment, and operational considerations. Staff reporting and evaluation procedures must all be determined. These details may profoundly affect program direction and success.

- **Establish Program Revenue Policies and Procedures.** Depending on the nature of the funding sources and disbursement methods, procedures and policies will need to be developed to manage these functions. Ultimately, this may require the establishment of Administrative Code provisions to formalize and codify disbursement of program revenue. Part of this effort will involve the creation of the terms under which program revenue may be expended. These terms and conditions will likely include compliance with both administrative and technical standards.

Strategies Effected

- Focused on Missions and Mandates
- Information Systems Perspective
- Multi-Purpose, Multi-Participant
- Statewide Scope, Decentralized Operations
- Efficiency and Effectiveness

Resources Needed

It is expected that most of these activities may be accomplished without outside assistance. Portions of the program development, e.g., establishing program revenue policies and procedures, may be appropriate for outside consulting assistance.

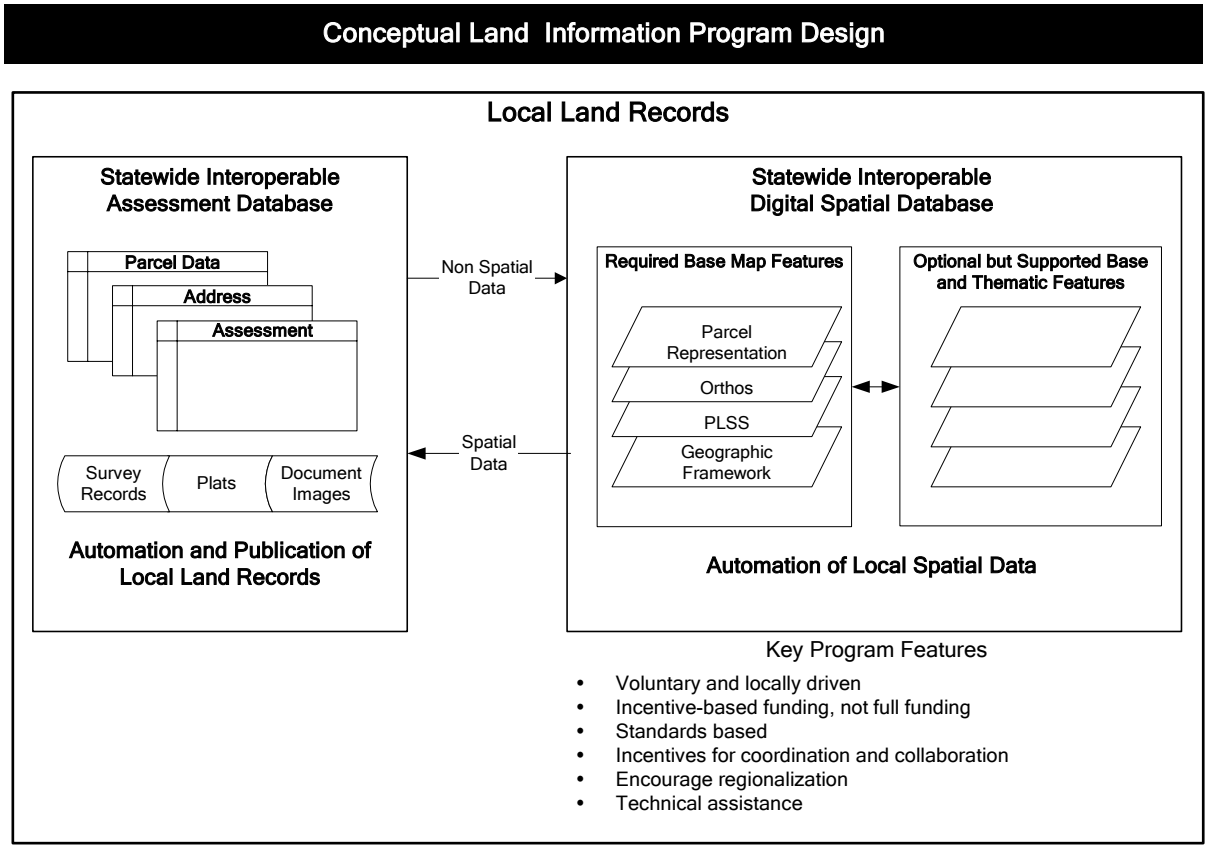
Success Metrics

- Completion of each administrative element
- Widespread program participation at the local level.

Timetable

- **Formalize the Governance Structure.** Begin immediately after legislation has been enacted. Complete within 6 months.
- **Establish Organizational Structure.** Begin after legislation has been enacted and the governance body is sufficiently prepared to move forward. Complete within 6 months.
- **Establish Administrative Program Features.** Start once the organizational structure has been put into place. This will be an ongoing, long term process.
- **Establish Program Revenue Policies and Procedures.** Begin when the organizational and administrative aspects of the program are operational. Complete within one year thereafter.

Figure 1: A Proposal for an Interoperable Land Information System for the State of Nebraska



b. Establish a Broad Technical Architecture

Problem Statement

The conceptual design for the program envisions the blending of two separate, but related initiatives. First is the effort of the Nebraska Geographic Information System Steering Committee for the development of a digital geospatial cadastre (parcels and land ownership). The second initiative is the effort by the Nebraska Property Assessment and Taxation Department to build a statewide interoperable assessment database and system. While these two systems may arguably stand alone, they share more interdependence than distinction. Figure 1 depicts a conceptual model of the union of these two systems.

For there to be successful integration of these systems it will require substantial effort in planning, design, and implementation. From a systems architecture perspective, these systems must be unified. That does not mean there should be one system. Rather the systems should be designed to interoperate. Interoperability can be achieved, generally, in one of three ways.

- **System Level.** This comprehends a unified system or confederation of systems;
- **Database Level.** In this form, interoperability is attained through consistent data models and open systems architectures;
- **Application Level**. This is the most decentralized and complex form of interoperability that relies a high degree of interconnectivity and collaboration.

Activity Description

In all likelihood, the system architecture will involve elements of all three methods of interoperability. Development of an interoperable system will require extensive and careful planning and design that at each step should address business processes, data, technology, organization, and application system components. Ideally, this effort will be part of the design of both the assessment database and spatial database systems. Minimally, the following activities should be undertaken:

- **Comprehensive Data Modeling.** A high level data model must be developed to support interoperability. This data model should include required and optional data elements, content and form structures. Because the intent is that these systems will exist independent of specific technology, what will be important is the creation of a set of necessary data elements and descriptions that are understood by each system. For example, parcels need a consistent description, whether that is a parcel identification number or some other descriptor. Because the complexity and inevitable differences in systems and the way data is handled, the data modeling exercise should be limited to a set of data elements required for interaction.
- **Technology Architectures.** At some level, technologies used to support program activities must open enough to support, at a minimum, data exchange and, hopefully, seamless integration. Decisions will have to be made in regard to requirements for technologies. Choices may range from defining qualifying technology to simply specifying functional requirements such as ODBC compliance.
- **Process Architectures.** The nature of minimum prescribed interactions among program participants will have to be determined. For example, in a data exchange situation, will it be the provider or the requester who must be responsible for any necessary conversions. Given the vision for a statewide interoperable assessment database, these interactions may be formal and, thus, complicated prescribing the means, methods, timing, and form of the interaction. This is because, ultimately, it is intended that there be a unified, centrally accessible assessment database. On the spatial data side, there may be less need for this level of formality, except in those regional or local instances where systems and data will be more tightly integrated.
- **Organizational Architectures.** Development of the organizational dimension of these systems will be critical to success. The organizational architectures embrace two forms. The first is administrative, particularly at the local level. This includes establishing permissible institutional forms of organization locally and regionally. The second is more system oriented. In the system realm, the organizational dimension will need to define required interactions.

For the assessment database, there is greater need for formality because there will be required work and data flows will have to be defined. On the spatial data side, these interactions may be less formal because the work and data flows may be more ad hoc or project based.

Strategies Effected

- Information Systems Perspective
- Multi-Purpose, Multi-Participant
- Statewide Scope, Decentralized Operations

Resources Needed

Developing system architectures will be a long and intensive exercise. It will require substantial commitment from state, local, and regional participants to contribute to the decision making process to establish these architectures. In addition, it is likely that the State will have to retain outside consulting assistance to provide both content and facilitation services. The costs of these consulting services could range into several hundreds of thousand of dollars depending on the targeted outcome.

Success Metrics

- Establishment of a statewide interoperable assessment database
- Establishment of statewide spatial data infrastructure.

Timetable

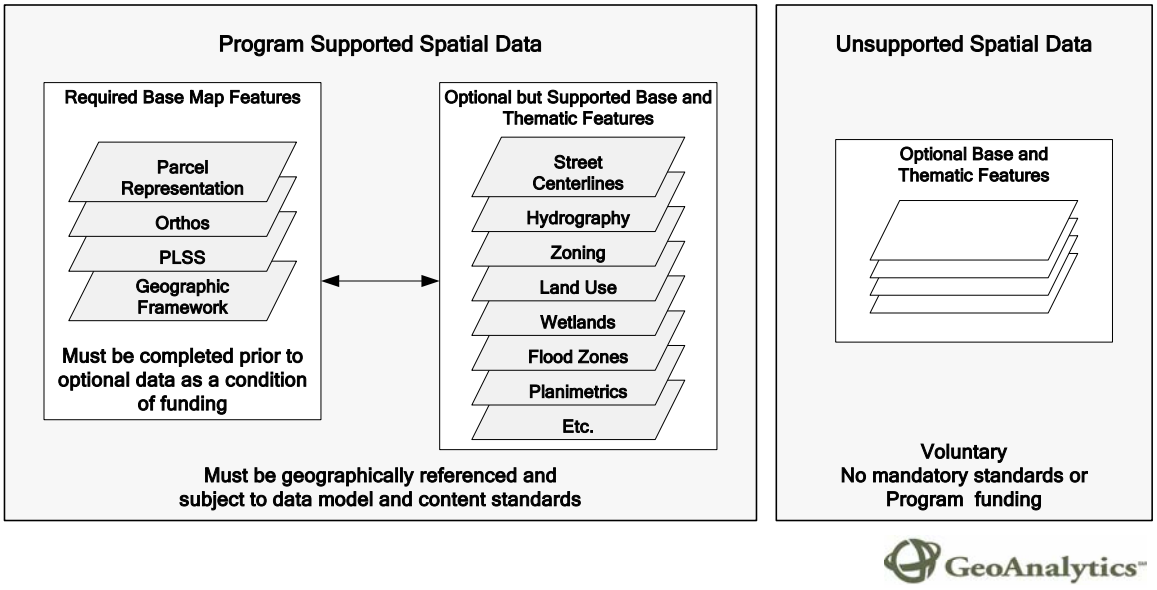
These activities should begin once the administrative aspects of the program have been established. The planning and design phases of the technical architecture will span two to three years.

c. Develop Spatial Data Quality Standards

Problem Statement

The accuracy of digital spatial data developed under the program will be critical to its utility and usefulness from a programmatic perspective. Accuracy, including documentation, will be a large determinative of whether program investments will yield the most cost-effective benefits to the State and local participants and taxpayers. Generally, cost increases with increased accuracy. At the same time, the greater the accuracy, the more flexible and useful data is across organizations. Highly accurate data may be generalized and used in less demanding circumstances. However less accurate data cannot be combined with more accurate data. As a result there will be a balance between accuracy and cost. Through this program, hopefully accuracy will be driven by the most demanding business process requirement and by pooling resources the costs will be spread among participants. Figure 2 depicts program spatial data elements.

Figure 2: Conceptual Spatial Data Elements



Activity Description

The *Nebraska Guidebook for a Local Government Multipurpose Land Information System* provides an excellent starting point for the development of standards. Standards in this case will be conditions for program funding and participation. They must, therefore, be discrete, objective, and attainable. Philosophically the State will be confronted with the choice between establishing detailed specific standards or whether to create "minimum" acceptable standards. Obviously, some standards may be more rigorous than others. Ultimately, standards must meet the needs of largest audience of users without imposing too much burden on the data creator/custodian.

The following aspects of data standards will need to be established

Data Elements

Although it is implied above, a determination will need to be made relative to what data elements must be included, which are optional, and which are not supported under the program.

Positional Accuracy

Positional accuracy refers to the accuracy with which a location on a map can be tied to a discrete geographic coordinate, such as a latitude/longitude, or other x/y coordinate.

Referential Integrity

Related to positional accuracy is consistency in the compilation of digital land records. To ensure referential integrity, all spatial data, existing and new, will need to be aligned in the same coordinate space and registered to some base (e.g. survey control network, base map, etc). Presumably all data will be registered to Nebraska State Plane (NGS Code 2600), NAD83, in feet.

Comprehensiveness and Currency

Each centrally served program supported data layer should meet a minimum standard for comprehensiveness and currency. Example minimum standards may include:

- Each data layer should contain a key identifier (such as PIN or Zoning Designation, or Road Name) for each mapped feature, with no unidentified features.
- Data layers should cover the entire geographic extent of the creator/custodial organization, unless explicitly noted otherwise in metadata documentation.
- Regular update schedules should be adhered to, as determined in data custodianship policies.

Citation of Data Quality

Any printed or digital distribution of the information should be annotated with references to the accuracy, comprehensiveness, and currency of each data layer that appears on the distribution. In addition, statements of appropriate use and disclaimers should appear on printed products.

Metadata

Metadata, or descriptive information about each data layer, should be clearly documented. By providing accompanying documentation with spatial data, the custodians will help to prevent inappropriate or misunderstood use of the data it publishes. Metadata should at least meet the minimum requirements of the Federal Geographic Data Committee's *Content Standard for Geospatial Metadata*. These minimum standards include the following information:

- Title
- Description of Data Layer
- Purpose of Data Layer
- Time Period of Content
- Maintenance and Update Frequency
- Source of Information/Data Collection Method
- Scale of Original Source/Data Collection
- Map Projection
- Positional Accuracy
- Attribute Accuracy
- Attribute Definitions
- Known Limitations
- Custodian/Point of Contact

Strategies Effected

- Focused on Missions and Mandates
- Information Systems Perspective

- Multi-Purpose, Multi-Participant
- Statewide Scope, Decentralized Operations
- Efficiency and Effectiveness

Resources Needed

Establishment of standards can be difficult and politically tricky. By imposing standards, costs are also imposed. The balance between the costs and benefits of program participation is delicate. To create relevant and appropriate standards will require effort, input, and education. As a result this will require substantial commitment from state, local, and regional participants to contribute to the decision making process to establish these architectures. In addition, it is likely that the State will have to retain outside consulting assistance to provide both content and facilitation services. The costs of these consulting services could range into several hundreds of thousand of dollars depending on the targeted outcome.

Success Metrics

- Establishment and acceptance of the standards
- Establishment of statewide spatial data infrastructure.
- Widespread program participation at the local level.

Timetable

This will be an ongoing multi-year effort.